DOCUMENT RESUME

ED 255 504 SP 025 960

TITLE	Health: Grade Five. Interim Guide.
REPORT NO	ISBN-0-7711-0150-3
PUB DATE	83
NOTE	114p.; For related documents, see SP 025 954-964.
PUB TYPE	Guides - Classroom Use - Guides (For Teachers) (052)
EDRS PRICE	MF01/PC05 Plus Postage.
DESCRIPTORS	Class Activities; *Dental Health; Elementary Education; *Environmental Education; Foreign Countries; Grade 5; *Health Education; Life Style; *Mental Health; *Nutrition; *Physical Health; Public Health; Safety; Socialization; Well Being
IDENTIFIERS	Manitoba

ABSTRACT

This health education guide for grade five is divided into six sections. A statement of the sub-goal for each section prefaces an outline for achieving that goal: (1) social-emotional well-being: to enhance self-awareness and increase skills that promote personal development and successful relationships; (2) physical well-being: to increase awareness about body systems and adopt lifestyle practices that promote and maintain physical well-being; (3) nutrition: to develop proficiency in making food choices that maintain and promote well-being; (4) dental health: to develop proficiency in applying dental health concepts, attitudes and skills that maintain and promote dental well-being; (5) safety: to practice safety and survival procedures that promote individual and community well-being; and (6) environmental health: to understand the importance of making responsible lifestyle decisions regarding disease, environmental factors and community health resources. The outline of each section includes objectives for students with a variety of activities from which to choose, and suggestions for the teacher. (JD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED255504

province of
manitoba
1983

health: grade five

interim guide

THIS GUIDE IS SUBJECT TO REVISION ON THE BASIS OF INFORMATION RECEIVED FROM SCHOOLS. IT IS EXPECTED THAT MODIFICATIONS WILL NOT BE IN THE DESIGN OF THE PROGRAM. RATHER, CHANGES MAY BE MADE IN AREAS CONCERNING STRATEGIES, RESOURCE MATERIALS, AND IMPLEMENTATION.

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

X This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

KA Cosms

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

SP025960

department of education

ISBN 0-7711-0150-3

CONTENTS

SOCIAL-EMOTIONAL WELL-BEING 1

PHYSICAL WELL-BEING 9

NUTRITION 27

DENTAL HEALTH 39

SAFETY 49

ENVIRONMENTAL HEALTH 57

social-emotional well-being

SOCIAL-EMOTIONAL WELL-BEING

SUB-GOAL: To enhance self-awareness and increase skills that promote personal development and successful relationships.

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
1.0 Personal Development Students should be able to:		
1.1 Identify characteristics about self to increase awareness of self and others.	Collect materials for a classroom corner display to reflect awareness of self.	Select a student's name from the class each week to prepare a Kid-of-the-Week bulletin board project. Each student will prepare his or her bulletin board: what I do on holidays, how I spend my time, likes, dislikes, special interests, hobbies, things I do well, people I admire, logos, pictures. Each student can briefly discuss his or her collage with the class. The teacher periodically should review similarities and uniqueness of classmates.
	Write positive statements about self using the letters of the student's name.	S Sea shell collecting is my hobby. U ----------. S ----------. A ----------. N ----------.
	Answer questions on a worksheet designed to increase awareness of self and others.	See worksheet in Teaching Aids, "About Me." Explain that the purpose of the activity is to think about who you are and what you are like. Read through the worksheet. Students can share as much information as they wish in small groups or keep data in their notebooks.
	Describe how inherited traits reflect personal	Discuss some classic genetic traits--tongue roll, ear wiggle, hitch-hiker's thumb, widow's peak (hair-

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
	uniqueness. Classify students into like groups based on traits.	line), kinky hair, longer second toe, eye color, clockwise hair whorl, mongolian eye-fold, attached ear lobes, hair color--and have students identify presence or absence of each trait. Separate students into like groups and describe class characteristics. Bar graphs could be prepared to facilitate data interpretation. Encourage discussion of how uniqueness contributes to understanding of self and others.
1.2 Apply the steps in decision-making.	Make decisions in response to problem scenarios. Analyze situations using the six decision-making steps.	See Teaching Aids for sample scenarios. WEDGE, People of the Sun, Book 5 (Vancouver, BC: The Author, 1980), pp. 33-36. Review the decision-making steps and assign students to work on problems in small groups. Review group solutions with the class. Steps 1. Define the problem. 2. Explore possible solutions. 3. Discuss pros and cons of each solution. 4. Choose the best alternative. 5. Act. 6. Evaluate.

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
1.3 Recognize that stereotyping may affect self-concept. (OPTIONAL)	Discuss examples of how stereotyping affects behavior.	Examples of sex-role stereotyping to suggest are: . all girls love dolls . boys shouldn't cry Examples of non-sex-role stereotyping to suggest are: . all teachers are old . all oldest children are the smartest Ask students to define their feelings when they are expected to do tasks defined not by their ability or interest but by gender.
2.0 Relationships Students should be able to:		
2.1 Describe responsibilities of being a friend to someone.	Discuss ways to promote and maintain friendship.	Write a list of qualities of a friend or have a small group of students suggest ways to promote friendship. Have them share their insights with the class. Guide the discussion to describe personal responsibilities in maintaining and initiating friendships; i.e., we should demonstrate these qualities, seek out people who have these qualities, and understand that to have a friend is to be one.
2.2 Demonstrate effective communication skills.	Practice giving and receiving messages.	Review the importance of effective communication and listening skills. Listening skills are two-sided: what the person literally hears (sounds) and what he/she interprets.

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
		Prepare several written statements. Select a group of four or five students. Ask them to leave the room. Ask one student to return to the classroom and read silently the prepared statement. A second student is asked to come back into the classroom. The first student will communicate the prepared message from memory. In the same manner the second student relays the message to the third student and so on. The first and last message should be compared. Stress that the message should be the same in intent although the words may vary. Stress that good listening allows a person to hear what another has said and then return the message in a paraphrase or summary; i.e., "Are you saying that . . ." or "Sounds as though you're saying . . .", etc. Stress that this kind of communication must be used carefully in order not to damage the self-esteem of the other person.
3.0 Promoting Positive Lifestyle Practices Students should be able to:		
3.1 Explore personal qualities and attributes.	Complete a "Private I" inventory.	See Teaching Aids for "Private I" inventory.

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
		Calgary Board of Education, Self Concept, Elementary 4, 5, 6 (Calgary, AB: The Author, 1982), Grade 5, Lesson 1.
	Complete questions about "The Way I Am."	See Teaching Aids for "The Way I Am."
3.2 Identify personal qualities that require improvement or maintenance.	Using the "Private I" inventory, select qualities for improvement and/or maintenance.	Discuss how students might pursue improving personal qualities, for example: using leisure time, obtaining help, being more responsible, communicating more effectively, making more thoughtful decisions.
3.3 Recognize the importance of communication and decision-making to health.	Discuss how decision-making influences one's health.	Examples: . How would avoiding eating empty calories (junk food) affect one's health? . How would road safety practice affect health? . How does effective communication (active listening) affect social-emotional or physical health?
3.4 Propose goals to improve personal well-being.	Select a characteristic that can be improved and suggest ways to make improvements.	
	Outline goal statements that show ways to improve a personal characteristic.	Sample goals to suggest: . "I will show responsibility at home by tidying my room." . "I will ask for help when I am in doubt."
	Complete a contract to improve social-emotional well-being.	See Teaching Aids for "Private I Contract," Calgary Board of Education, Self Concept, Elementary 4,5,6 (Calgary, AB: The Author, 1982), Grade 5, Lesson 1.

physical well-being

PHYSICAL WELL-BEING

SUB-GOAL: To increase awareness about body systems and adopt lifestyle practices that promote and maintain physical well-being.

<table>
<tr><th>OBJECTIVES</th><th>SUGGESTED STUDENT ACTIVITIES</th><th>TEACHER NOTES</th></tr>
<tr><td>1.0 Respiratory System

Students should be able to:

1.1 Locate the main respiratory organs.</td><td>Discover the location and size of the lungs.</td><td>In this unit, students learn about the respiratory system--its purpose, importance, structure and function, malfunctions and care.

The emphasis in this unit is to provide students with an introduction to a vital body system.

Size can be determined by measuring the lungs on the human body outline and extrapolating to human size.

<table><tr><th>Organs</th><th>Location</th></tr><tr><td>lungs</td><td>. upper chest cavity</td></tr><tr><td>nose and mouth</td><td>. head</td></tr><tr><td>rib cage</td><td>. surrounds chest</td></tr></table>
See the diagram, "Human Body Outline," in the Teaching Aids.</td></tr>
</table>

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
	Observe the inside of a mouth.	Have the students look inside a friend's mouth using a light and a tongue depressor. Locate teeth, tongue, tonsils, uvula and opening to the pharynx (back of throat).
	Observe and measure changes of the chest during breathing.	Have the students take first a deep and then a shallow breath and observe changes in size and position of chest and abdomen. Upon deep inspiration, the rib cage moves markedly up and out, and the abdomen moves little. Verify by measuring the size of the chest on maximum inspiration and on expiration with a tape measure or measured cord. Ask: . What part of the body moves during inspiration? (rib cage, chest, chest and/or abdomen) . What happens as the rib cage increases in size? (air moves into body from nose) . What happens when the rib cage returns to a resting size? (air moves out of the body through the nose) . What parts of the body are involved in breathing? (various answers--nose, mouth, lungs, rib cage)
1.2 Know the structure and function of the respiratory system.	Label a diagram of the respiratory system and state one function of each structure.	Make copies of a simple diagram for the students to label. See Teaching Aids. Structures of the respiratory system include: . nose . mouth

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
		. throat (pharynx) . windpipe (trachea) . epiglottis . bronchus . brochiole . air sacs (alveolus) . diaphragm
	Make a model to illustrate how the lungs and diaphragm work.	
	Trace the passage of air from the nose to the air sacs. Label a diagram of an air sac indicating the movement of oxygen and carbon dioxide in the lungs and capillaries.	Stress the vital relationship of the respiratory and circulatory systems in the air sacs. Mention that oxygen is moved into the blood and is carried on red blood cells and circulated to body cells for energy production. Carbon dioxide leaves the blood and moves to the lungs for removal by expiration. An optional activity would be to bring fresh lung tissue to class for the students to observe the texture and color of lung tissue. Lung material from a freshly killed bird is light, well supplied with blood vessels and floats. A frog's lungs can be inflated by inserting a straw through the vocal cords and blowing gently.
1.3 Recognize the importance of breathing to life.	Demonstrate different ways to breathe and record rates of breathing.	Have students quietly sit down and practice different ways to breathe: . at rest . deep and slow . shallow and fast

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
		Ask: . Do you breathe automatically? . Can you control the way you breathe? . When did you use these different ways to breathe? *Ask students to count the number of breaths at rest (inspiration and expiration = one breath) for one minute. Find the average rate of breathing at rest for the class.*
	Explain how the body adjusts to exercise which changes the rate of breathing.	*Explain that the medulla of the brain controls breathing.* <u>Activity 4</u> Ask the students to hold their breath for 30 seconds. Time this by giving direction: Ready - hold your breath (30 seconds) Stop - and count breaths for 30 seconds Stop - and record number of breaths for 30 seconds Ask: . Is there a difference between resting rate of breathing and the rate after you held your breath? . What is the difference?

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
		. Why do you think your rate was higher after holding your breath? Activity B *Have the students jump in place or run for one-half minute. Time the experiments as before and query them as to the relationship of exercise and breathing rates.* *Ask:* *. How does the body respond if you get "wind" knocked out of you in a football game? (gasp; slow, shallow breathing)* *. How does it feel?* *. How would your ribs feel if you started running 12 blocks or one mile every day? (sore rib muscles)* (Explain that deep breathing involves the muscles of the rib cage rather than the diaphragm as in shallow breathing. These muscles fatigue when over-strained initially.) . What happens when you hiccup? talk? eat? whistle? sing? swim? play a wind instrument?
	Discuss why animals, including humans, require oxygen and need to rid themselves of waste carbon dioxide.	It is important for students to know that oxygen is essential for life. Humans cannot survive long (six minutes) without air or brain damage or death will result. Breathing is the process of inspiration and expiration.

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
		Explain that body cells constantly need oxygen to produce energy. The processes involved in producing energy also produce carbon dioxide as waste. This waste must be continuously removed from the body. Oxygen cannot be stored in the body for any length of time and carbon dioxide acts as a poison. The body regulates gas exchange at the alveoli and blood vessel level. Breathing occurs in two steps: . Inspiration - oxygen moves into the upper respiratory system, to the lungs and to the numerous alveoli. . Expiration - carbon dioxide moves into the alveoli, up the respiratory passages and out of the body. The lower brain stem, called the medulla, controls inspiration. See diagram in Teaching Aids.
1.4 Know common malfunctions of the respiratory system.	Make a list of respiratory disorders and disease and find out how each affects well-being and lifestyle of the individual.	Some examples of disorders and disease: . choking . carbon monoxide poisoning . smoking . pneumonia . bronchitis/emphysema . hiccup

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
		. asthma . sniffing
1.5 Recognize that carbon dioxide is a body waste. (OPTIONAL)	Collect carbon dioxide under limewater.	
<u>Excretory System</u>		
1.6 Locate the main excretory organs. (OPTIONAL)	Paste diagrams of the excretory system onto a model diagram of the body.	Explain that the excretory system rids the body of liquid wastes called urine. Several other body wastes are eliminated from other body systems. Make a model or diagram of excretory organs including: . kidneys - filter blood of impurities . ureters - drain urine from kidneys . bladder - collects urine . urethra - drains urine to outside of body (to vulva or through penis) See <u>Teaching Aids</u> for a sample model.
1.7 Know the structure and function of the excretory system. (OPTIONAL)	Match the functions with structures of the excretory system.	

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
1.8 Identify the importance of the excretory system. (OPTIONAL)	Describe the nature of urine as a body waste and discuss factors that influence urine production.	Characteristics of urine are: . sugarless . pungent smell . yellow . clear Tests could be carried out on a fresh urine sample, using pH paper (pH7 is normal) or clinitest paper (indicates presence or absence of sugar). Explain how the following factors influence urine production: . cold, heat, humidity . fluid intake--types and amount . salt intake . body temperature . illness . emotions and stress
	List the functions of the excretory system.	Discuss the following functions of the excretory system: . eliminates liquid wastes . filters body impurities . maintains water balance
1.9 Identify disorders of the excretory system. (OPTIONAL)	Discuss what it would be like to have no control over the urinary bladder.	

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
	Name several common disorders of the excretory system.	For example: . enuresis - bed wetting . incontinence - inability to control release of urine . kidney or bladder stones - mineral collections that interfere with normal functioning or drainage . infections - frequent, painful urination
2.0 Keeping Fit Students should be able to:		
2.1 Know how to take responsibility in a respiratory emergency.	Practice how to assess breathing status.	Have students take partners and demonstrate three ways to assess breathing. . Feel chest rise (hand on chest). . Watch chest rise (watch chest rise and fall). . Listen at mouth and nose (ear detects air movement). Stress that breathing rate is one of the four VITAL LIFE SIGNS (breathing, temperature, pulse, blood pressure).

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
		Ask: . What parts of the body are involved in breathing? . Where are they located?
	Practice assisting a person into recovery position.	 . Clear mouth. . Turn and position. . Open airway.
	Discuss the steps to follow in a breathing emergency.	Help students develop these steps: . Clear the mouth. . Position head to open airway. . Assess breathing. . Get help. . Give mouth-to-mouth resuscitation if certified. Invite a health worker to class to demonstrate mouth-to-mouth resuscitation.

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
3.1 Name and describe the parts of the respiratory system.	Identify physical, chemical and reflexive protective mechanisms of the respiratory system.	Explain that the following are mechanisms: - Physical - cilia and nose hairs - Reflexive - cough, sneeze - Chemical - mucus Explain that these mechanisms function to keep the airways clean and clear. Ask: - What happens if food gets into the windpipe? (cough and choke) - Do you think it is better to breathe very cold air through the nose rather than the mouth? (nose warms air) - What is the importance of mucus in the nose and respiratory tract? (mucus provides a method of catching dirt, keeps breathing passages clean and moist so they don't dry out)

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
2.3 Recognize how [illegible] influence breathing.	Observe what happens during a hiccup.	ask the students to hiccup. Ask: . What could you feel in your throat when you hiccuped? . What happened to your breathing when you hiccuped? . What measures are used to stop hiccups? Adapted from: ISIS, Getting Enough Oxygen (Lexington, MA: Ginn, 1976). Ask: . Where does irritation to sneeze and cough come from? (sneeze - nasal passage irritation) (cough - pharynx, windpipe or bronchi irritation) Explain that air is forced out at sneeze and we get rid of irritants. When air irritants are detected [illegible] cough and sneeze.
	Discuss sneezing, coughing, sighing and yawning.	

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
		Signs and yawns involve long and deep inspirations and short expirations. All animals with backbones yawn but no one is sure why. It may be related to low blood oxygen. Ask: . What happens during crying? (deep inspiration, windpipe stays open and air is expelled in short bursts) . Describe a laugh.
3.0 Promoting Positive Lifestyle Practices Students should be able to:		
3.1 Assess personal respiratory fitness.	Answer a questionnaire on susceptibility to respiratory diseases.	See Teaching Aids. Explain that people differ in their ability to resist respiratory infection. Your behavior and lifestyle can help to protect your body against infection.
	Count and graph the number of breaths taken in a minute and vary the conditions.	For example: . Breathing rate at rest per minute _____. . Run 50 steps and count breathing rate per minute _____. . Run 100 steps and count breathing rate per minute _____.

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
		Ask: . What is the effect of running on your respiratory system?
	Monitor breath recovery after exercise and evaluate your respiratory fitness.	See Teaching Aids for worksheet.
	Measure lung volume and investigate the relationship between lung volume and height.	Explain that the taller the person, the greater the lung capacity (deep breath). This experiment lends itself to finding out the volume of normal breath (about 250 mL) and a deep breath (1500 mL - 2500 mL). Lung volume is about ten times the volume of a normal breath.
3.2 Identify the importance of caring for the respiratory system.	List and discuss how environmental factors influence the respiratory system. Discuss why individuals should promote health of the respiratory system.	Some examples are: . pollutants (particles, inhalants) . altitude . humidity . temperature . exercise . gases - oxygen, carbon dioxide and carbon monoxide . chemicals - nicotine and tobacco tars . stress - anxiety, fear, anger, sadness . germs

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
		. genetics . workplace . allergens . animals and plants
	Write a paragraph outlining the importance of caring for the respiratory system to life.	
3.3 Know community resource persons that work with respiratory health.	List a variety of health workers whose role is related to respiratory well-being.	For example: . Manitoba Lung Association . public health nurse . doctor . other
3.4 Propose goals or an action plan to maintain and/or improve respiratory fitness.	State or write goals for optimal respiratory well-being.	Help students write statements that promote respiratory health for the following: . cigarettes . worries . diet . side-stream smoke (smoke released into the air from a cigarette) . exposure to disease . play places . illness
	Outline a plan to improve respiratory fitness and put it into action.	Encourage individual students to write a plan to improve their respiratory fitness. . State the problem.

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
		• List alternatives that could improve respiratory fitness. • List pros and cons for each alternative. • Select the best alternative(s). Write goals or action plan. Try it out for a period of time. • Evaluate the plan.

nutrition

NUTRITION

SUB-GOAL: To develop proficiency in making food choices that maintain and promote well-being.

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
1.0 Food This concept has been developed in earlier grades. No activities have been designed from grade five to grade nine for this section.		Teachers are encouraged to use one or more of the following suggestions to increase their background in nutrition: / Health Education Methods for Elementary Teachers: Background Reading (Nutrition section) available from Department of Education Library / Attend an in-service: Big Ideas/Food for Thought / [illegible]

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
2.0 Food Classification Students should be able to: 2.1 Analyze a variety of foods for major nutrients.	Investigate a variety of foods for nutrient content. Match each snack with identified major nutrient on the wall chart. Complete a crossword puzzle about major nutrients and their functions.	Divide the class into four groups to do experiments. Have each group complete one experiment and report their findings to the class. Sample experiments are in Teaching Aids. See Teaching Aids for a sample chart. This could be reproduced as a large wall chart or used as a bulletin board technique aid. Explain that nutrients are substances in foods that are essential for growth, repair, health and energy. Big Ideas 4-6 (Manitoba Milk Producers' Marketing Board), Section 3, Function: "Crossword Puzzle."

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
2.3 Identify the major and accessory organs of digestion and their functions.	Locate the organs of the digestive system and write a sentence to describe each structure.	This topic is best correlated with Science.
	Label the parts of the digestive system and write a sentence to describe each structure.	See the diagram of the digestive system in Teaching Aids.
	Play a game to review how the digestive system works.	"Digestion Drag Track Game," in Teaching Aids.
2.4 Know the importance of digestive processes.	Discuss the importance of digestive processes.	Explain that digestion reduces food to its basic components so that the body can utilize the nutrients for growth, energy, and regulation. The processes of digestion are: . physical - chewing, swallowing, peristalsis, selective diffusion . chemical - special chemical enzymes from salivary glands, stomach, pancreas, liver and intestines change foods to simpler forms prior to selective diffusion in the small intestine
2.5 Demonstrate physical changes of the digestive system.	Demonstrate physical changes that occur in the mouth.	The teeth, jaws and tongue grind up, move and ready food for swallowing.

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
		Tear a piece of paper into small pieces. Demonstrate that tearing paper into smaller pieces represents a physical change since the paper remains unchanged except for size.
	Describe peristalsis and state where it occurs.	Peristalsis: physical process of moving food through digestive system Have students push and squeeze a marble coated with lubricating jelly through a flexible rubber tubing labelled esophagus, stomach, intestines. Generalize that motions of pushing and squeezing of fingers are like muscles in the esophagus, stomach and intestines, which move food in the digestive system.
	Investigate how the stomach physically changes food.	Physical Change Have students put a mixture of food into a plastic bag (hamburger, cooked vegetables, bread, etc.) and knead it. Watch how the food breaks up and mixes together. Explain that the stomach works in a similar way. The stomach breaks up food and mixes it with gastric juices to form a thick liquid called CHYME (chemical).

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
2.6 Demonstrate chemical changes of the digestive system.	Investigate how foods are changed chemically in the mouth. Simulate chemical changes that occur in the intestines.	Review with students that the tongue's four different taste areas are primary chemical sensors. Assign small groups to work through an experiment and report findings to class. Four experiments follow to illustrate chemical changes. <u>Experiment A</u> Chew a cracker for three minutes, until it is moist and soft. Describe the taste and texture changes. Infer the changes are chemical changes and that saliva affects a cracker by changing its form and taste chemically. <u>Experiment B</u> Investigate emulsification of fats through experimentation: . Fill test tube A halfway with water. . Fill test tube B with a soapy solution (one-half soap, one-half water). . Add 1 mL of oil to both tubes. . Describe the differences in the tubes. . Suggest how soap, which simulates bile, assists in digestion . - Test tube A: oil and water do not mix - Test tube B: oil and soap solution do mix, forming an emulsion . Infer that bile, like soap, breaks fat up into smaller units.

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
	Investigate the effect of a chemical on minerals in food.	Experiment C Investigate how a body chemical dissolves minerals in food. . Place a chicken bone in a beaker of diluted HCl. After three days, remove the bone.
	Investigate the effect of a chemical on protein.	Experiment D . Add 30 mL of lemon juice to 240 mL of milk. . Let stand at room temperature. . Observe after one hour, then three hours. . Results: the milk curdles, showing the breakdown of protein.
2.9 Know the importance of the intestines in digestion.	Simulate the selective nature of the walls of the small intestine.	Explain that food "molecules" are passed through the walls of the small intestine into the blood stream. Big Ideas 4-6 (Manitoba Milk Producers' Marketing Board), "Food Trek." See Teaching Aids for "The Membrane."
	Discuss the importance of the intestines in digestion.	
	Discuss what happens to undigested foods.	Discuss the fact that fibrous foods do not pass through the intestinal wall, but are passed to the large intestine and rectum and are eliminated as feces.

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
3.0 Food Selection Students should be able to: 3.1 Propose criteria for a nutritious drink.	Collect and analyze drink container labels.	Have students bring labels of common drinks and juices. Have students propose criteria for a good beverage: . contains no added sugar . contains mostly fruit juice (which is listed first on the label) . contains no drugs (i.e., caffeine)
4.0 Food Appreciation This concept has been developed in earlier grades. No activities have been designed from grade five to grade nine for this section.		

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
5.0 Promoting Positive Lifestyle Practices Students should be able to:		
5.1 Identify factors that influence digestion and well-being.	Discuss factors that affect digestion.	Make a class list of factors that influence digestion; for example, anger, excitement, fatigue, celebrations.
	Role play a family mealtime to show how family relationships influence eating.	Discuss the consequences of positive and negative factors on digestion and well-being.
5.2 Know the importance of digestion to well-being.	List reasons why digestion is important to well-being.	Explain that the prime function of digestion is to break foods down into their smallest units so that they can be transported from the intestines to body cells for energy use. Nutrients provide: . energy . a regular system . growth . repair
	Discuss the consequences of a digestive malfunction.	Examples are: . stomachache . diarrhea, constipation . nausea, vomiting . ulcers

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
5.3 Recognize community resources that provide reliable nutrition information.	Identify community nutrition resource personnel and agencies.	Personnel . home economics teacher . registered dietitian . home economist Agencies . Department of Agriculture . Department of Health . Manitoba Milk Producers' Marketing Board: Nutrition Education
5.4 Propose ways to promote a healthful nutrition lifestyle.	List general ways to promote the function of the digestive system.	Examples are: . eating well-prepared food . eating at regular mealtimes . chewing thoroughly . eating in a relaxed environment . following Canada's Food Guide . limiting the use of sugars, salts, fats . reporting digestive upsets to a responsible adult
	Formulate short- and long-term goals to improve and maintain nutrition.	Discuss the term, "goal," and have students list goals related to eating and health. Encourage each student to write personal nutrition goals. For example:

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
		. "I will thoroughly chew my food." . "I will bring a pleasant topic to the table for discussion tonight." . "I will increase my level of daily physical activity (because I am inactive)." . "I will choose fewer extras or high calorie foods to avoid being overweight." . "I will select foods from Canada's Food Guide to meet my minimum daily requirements."

dental health

DENTAL HEALTH

SUB-GOAL: To develop proficiency in applying dental health concepts, attitudes and skills that maintain and promote dental well-being.

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
1.0 Structure and Function Students should be able to: 1.1 Identify characteristics of the mouth.	Observe the parts of the mouth and describe the function and characteristics of each part.	The students can observe the mouth of another student using a dental mirror and tongue blade in a good light source. (Dental mirrors can be cleansed by a five-minute soak in alcohol after a soapy rinse.) Disposable mirrors can be purchased from dental supply houses. Have the students identify the: . moist mucus lining of the mouth . tongue . uvula . pharnyx (back of throat) . teeth: 4 types (incisors, bicuspids, cuspids, molars) . presence or absence of plaque The tongue should be smooth and pink. Fissures where food debris could easily collect may or may not be present. Use disclosing tablets to determine presence of plaque. Describe <u>where</u> it is located on the teeth.

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
	Record the number of fillings; lost, broken or chipped teeth.	
1.2 Know dental terms related to dental health. (OPTIONAL)	Research dental terms in the dictionary and write down definitions.	Have the students define the following terms: . plaque . caries . gingiva . prophylaxis . molar . bicuspids . cuspid . incisor . gums . enamel . amalgam . malocclusion See Teaching Aids for definitions of terms.
	Complete crossword puzzles, using dental terms.	See Teaching Aids for crossword puzzles.
2.0 Environmental Factors Students should be able to:		
2.1 Know factors of plaque formation.	Make a simple diagram of the process of plaque formation.	Review background information on plaque formation in Teaching Aids.

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
	Describe factors that lead to plaque formation.	Explain how the following factors lead to plaque and caries: . diet . inadequate oral hygiene . untreated dental accidents . failure to seek regular and adequate dental care Film: "The Haunted Mouth" (Dental Services, Department of Health).
2.2 Identify bacterial growth in plaque.	Observe and describe the growth of bacteria in plaque.	With the students, do the following experiment: Materials: 2 shallow jars with lids or petri dishes unflavored gelatin sugar 2 saucepans graduated cylinder Prepare gelatin as directed on package, add 5 mL sugar and boil 5 minues in a saucepan. Sterilize petri dishes (or shallow jars with lids) and a graduated cylinder by boiling under water for 10 minutes. Pour 15 mL or 1/4 cm of sterilized gelatin into containers. Have students scrape off plaque near their gums and between their teeth with a toothpick. Gently place scrapings on the surface of firm gelatin for container A. Tape lids onto containers. Container B, the control, should be labelled and untreated.

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
		Leave in a warm place for three days. Observe colonies of bacterial growth. Do not remove lids to view bacterial colonies. Note color, shape and number of colonies (colonies will probably be round, whitish in color; clumped edges of colonies will be smooth). Incinerate all containers to destroy contents of containers.
2.3 Know the process of dental decay.	Simulate the chemical condition of the mouth following ingestion of a sweet food.	Have small groups of students collect 1 cm of saliva in small, clean test tubes. Add a pinch of sugar to each test tube, then agitate carefully to dissolve sugar. Test with pH paper to verify acidic conditions (pH of less than 7 indicates an acid condition).
	Using a series of diagrams, describe the process of decay.	See: "The Process of Dental Decay," Illustration #5, Dental Health A Teacher's Guide K-12 (Health and Welfare Canada, 1981).
2.4 Be aware of the importance of selecting and using products that promote dental health.	Demonstrate brushing and flossing, using an appropriate technique with approved dental products.	Students should brush and floss at school. Select an appropriate way to store toothbrushes at school. Disclosing will reveal effectiveness of brushing and flossing.
	Make a mobile illustrating appropriate dental products and their characteristics. Discuss the importance of using approved dental products.	Collect pictures or containers of approved dental products. For example: . fluoride pastes (approved by Canadian Dental Association, C.D.A.) . toothbrushes (soft bristles, rounded tips, straight handle, appropriate size)

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
		. dental floss (unwaxed)
	Survey toothpaste ads and identify those that promote dental health.	Approved fluoride toothpastes (approval of the C.D.A. or A.D.A. will be written on the product) are of equal dental value but may vary in cost.
2.5 Know signals that indicate dental disease.	Make a list of possible signals of dental problems.	Examples to suggest are: . toothache . cracked tooth . bleeding gums . plaque . foul breath . abcess . cavity Discuss responsible action to take when signals are present, such as reporting them to a responsible adult.
3.0 <u>Promoting Positive Lifestyle Practices</u> Students should be able to:		
3.1 Assess personal dental habits.	Develop, record and rate dental care practices on a simple record.	Brainstorm a set of criteria for a simple dental record and have students design a record on which to note dental care practices.

OBJECTIVES	SUGGESTED STJDENT ACTIVITIES	TEACHER NOTES
	Brush, floss, and disclose at school. Evaluate performance on a simple dental record.	
3.2 Identify ways to be responsible for promoting dental health.	Discuss ways that children and families can be responsible for improving and maintaining dental health.	Encourage students to state the importance of caring for teeth so that they last for a lifetime. Discuss the role of parents and students in making regular visits to dental health personnel (dentist, dental hygienist, dental nurse). Discuss the relationship of dental health to: . food choices . snack selection . caring for dental accidents or signals of disease
	Discuss responsibilities involved in making and keeping a dental appointment.	
3.3 Propose short- and long-term goals to promote personal dental health.	Discuss short- and long-term dental goals.	Encourage students to propose goal statements to improve dental health. Examples of short-term goals: . "I will select snacks low in refined sugars." . "I will increase my milk servings daily." . "I will follow Canada's Food Guide."

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
		Have students formulate goal statements about: . brushing, flossing . dental care . dental safety rules . dental accidents
	Write a personal account of proposed dental health goals and justify them.	
3.4 Design a plan of action to improve dental health, and carry it out.	Choose a dental care behavior that needs improvement, outline steps for a plan of action, and carry it out.	Periodically, supervise dental care practices. Students should be encouraged to use the chart developed for objective 3.1.

safety

SAFETY

SUB-GOAL: To practice safety and survival procedures that promote individual and community well-being.

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
1.0 Safety in Environments Students should be able to:		
1.1 Identify causes of home fires.	Identify areas in the home that may be potential fire sites and list fire hazards.	
1.2 Identify the signs of a fire.	Discuss signs of fire.	Signs of a fire include: . smoke . heat . sound . smell . flame
1.3 Demonstrate procedures to follow in the event of a house fire.	Simulate a call to the fire department from a neighbor's phone.	Telephone procedures to report a fire: . locate or know fire number . phone from neighbor's . state name and report address of fire . confirm information with listener
	Mark safe exit paths on a diagram of a burning house.	Discuss procedures for getting help and exiting safely in the event of a fire.

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
1.4 Prepare a fire exit plan for home.	Design a fire exit plan with your family, noting two escape routes from each room.	Encourage students to practice a home fire drill with their family. Review home plans in class.
1.5 Know the steps to follow if clothing catches on fire.	Role play the three steps of stop, drop and roll on the spot to put out a fire involving clothes.	
1.6 Discuss individual responsibility for preventing fires.	List ways individuals can take appropriate action to prevent fire.	Examples of individual responsibilities are: . know fire rules . know location of fire extinguishers . install smoke detectors on each floor of home . prepare and practice a fire escape plan . know community helpers . recognize and remove fire hazards . make a list of emergency telephone numbers . know how to put out camp fires . be careful when cooking with oils . appropriately label, handle and store flammables
	Be a fire prevention model for younger children.	
	Discuss individual responsibilities when around fires.	Have students discuss responsibilities in various situations where fire is used.

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
		Examples are: . fireplace . campfire . woodstove . barbecue . lamps and heaters Emphasize that cost, pain, injury, absenteeism, and death may be consequences if risks are taken.
1.7 Understand the meaning of traffic signs and signals and their importance to a cyclist.	Describe appropriate action for a cyclist to take for various road signs and traffic signals.	Discuss whether signs and/or lights can always be trusted. Stress that students must look both ways before crossing streets and roads. Encourage students to enroll in and complete a bike safety course.
1.8 Identify traffic risks, hazards and consequences.	Identify traffic risks, hazards and consequences in going to and from school and home.	Invite the safety patrol or police to show a film to reinforce accident prevention. Discuss risks for the pedestrian, cyclist and passenger in a car or bus.
1.9 Know the importance of wearing seat belts in cars.	Research the kinds of accidents that occur when seat belts are not fastened. Research the number of lives that could be saved through the wearing of seat belts at the time of an accident.	

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
	Discuss ways to encourage family "buckle-up" programs. Make Buckle-Up stickers to attach to the family car.	Encourage students to relate how they can promote the use of seat belts for babies, siblings, parents, and friends. Discuss approved infant car seats.
2.0 Promoting Positive Lifestyle Practices Students should be able to:		
2.1 Assess safety habits and knowledge.	Complete an accident inventory and rate self.	See Teaching Aids for "My Risk Inventory." Have students complete inventory and rate themselves as high, medium or low. Ask: . Are there times that you might need to take a risk? Why or why not? . What risk behavior do you need to change?
	Describe risks that are involved in daily living.	Examples to discuss include: . not using seat belts . not wearing protective sports equipment . not following safety rules, etc.

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
2.2 Identify community fire prevention workers.	Discuss the role of community safety workers. Discuss ways that students and families can practice fire prevention.	Invite a fireman to class to describe his work, how to report a fire, and fire safety equipment.
2.3 Propose goals to improve personal safety.	Make a list of ways to improve a risky behavior that should be changed. Prepare goal statements to improve personal safety practices and keep a record of safety practices for a period of time.	Review each student's accident inventory and identify areas that students need to improve. Have students make lists of positive safety behavior to reduce risks. These can be written as goal statements. Examples are: . "I will chew my food carefully (to avoid choking)." . "I will swim with a buddy." . "I will use cross walks when crossing a street." . "I will not climb on slippery or wet objects." Encourage each student to write goal statements to improve his/her safety. Have them keep a simple record of safety behavior for a period of time and evaluate.

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
2.4 Design a plan of action to improve personal safety.	Select a behavior that needs improvement and plan how to improve safety and well-being.	Use the decision-making model to solve a safety behavior problem. . State the problem. . List alternatives. . Weigh the pros and cons of each alternative. . Select an alternative. . Design a plan. State goals and how to solve the problem. Put the plan into action. . Evaluate the plan.

environmental health

ENVIRONMENTAL HEALTH

SUB-GOAL: To understand the importance of making responsible lifestyle decisions regarding disease, environmental factors and community health resources.

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
1.0 Environmental Factors Students should be able to:		
1.1 Know the sources of air pollution.	Collect articles and pictures from newspapers and magazines about air pollution; identify sources of pollution.	Examples of sources include: . Natural - volcanic - pollen, storms - dirt, cosmic dust . Man-made - gases (exhaust, cigarette smoke) - water vapor - chemicals (aerosol sprays, herbicides, insecticides) - smog
1.2 Recognize the effects of air pollution on an individual's health and the environment.	Study articles from newspapers and magazines and list the effects of air pollution on both individual health and the environment.	Examples of effects of pollution are: . reduced visibility, damage to vegetation . irritation to skin and eyes, chronic disease . changes in body function . acute illness, death

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
	Describe diseases related to smoking and their effect on health.	Examples of smoking-related diseases are: . heart disease . hypertension . lung cancer . emphysema, asthma, bronchitis . allergies
1.3 Identify common commercial products that can pollute the air and affect health.	List common commercial products that can pollute the air and research their effects on the health of individuals.	Examples are cigarettes, aerosols, sprays (herbicides, insecticides, fogging for mosquitoes), solvents (gas and cleaning solutions)
	Research the effects of side-stream smoke on non-smokers and smokers.	Side-stream smoke is unfiltered smoke from cigarettes that contains poisonous or harmful substances to others. Explain the following: . Smokers and non-smokers suffer from the effects of carbon monoxide. . Carbon monoxide attaches more easily to red blood cells than oxygen. . Carbon monoxide causes a faster heart rate and higher breathing rate, thus reducing body efficiency. Some effects are: . irritation of eyes, throat, chest (smoke-scented clothes and hair) . difficulty in breathing for people with allergies

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
		. reduction of oxygen in blood . increased levels of carbon monoxide . coating of linings with debris . interference with the body's defences
	Observe a demonstration of the effects of smoking on pulse rate.	See Teaching Aids for experiments.
2.0 Disease Prevention Students should be able to:		
2.1 Distinguish between communicable and non-communicable diseases.	Describe differences between communicable and non-communicable diseases. Name some signs of common childhood diseases and classify as to type of disease.	Communicable diseases are caused by fungi, viruses, protozoans, or bacteria. Their onset is rapid. Non-communicable diseases are not caused by microbes, are behavioral, environmental or hereditary in cause.
2.2 Recognize kinds of microbes and how they can invade the body.	Name different kinds of microbes and describe how they can enter the body. On a diagram of a body, indicate where microbes can enter.	Explain that bacteria, fungi, protozoans and viruses exist almost everywhere on the earth. Most are harmless; some can cause disease. A disease is any health problem that weakens or harms the body. Body entry sites are: nose, respiratory tract, broken skin, mouth, genito-urinary tract.

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
2.3 Identify ways that the body defends itself against disease.	Give examples of outer and inner body defences.	Review the three lines of defence that protect the body against disease. See grade four, section 2.0.
	List ways to behave to prevent getting a communicable disease.	Review good preventive strategies such as positive health behavior, visits to the doctor or public health nurse when a professional is needed, routine immunization, and hygiene practices.
2.4 Know the importance of having recommended immunization and medical care.	Describe personal, family and community responsibility for providing immunity and appropriate professional care.	Invite the public health nurse to discuss immunization schedule and updating. Students could fill in a personal record and mark dates for future immunization.
	Find out personal immunization record and compare it to provincial guidelines and class immunity status.	Students can ask their parents for their immunization history (or the local public health nurse) and compare their records with provincial recommended schedules. It is recommended that grade five girls (ages 11-12) be tested for rubella. See Teaching Aids for "Recommended Immunization Schedules." Children deficient in immunization should be referred to public health nurse.
	Describe the work of several health professionals and when it is appropriate to contact each.	

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
2.5 Know health products used to assist the body to fight disease or prevent disease.	Describe how antibodies, vaccines, and antibiotics assist the body to fight disease.	Explain the following terms: An antigen is a foreign substance, such as a germ, that causes the body to mobilize white cells to ingest the invader. Antibiotics are special cells that fight specific germs. They may weaken, dissolve or kill invading germs. Antibiotics are medicines prescribed by a doctor to assist the body to kill microbes.
	Give examples of active and passive immunity and their importance in promoting health of individuals.	There are several ways in which immunity may occur: . Active acquired immunity occurs by getting a disease and forming antibodies in the body. . Active artificial immunity occurs by having immunization boosters which cause the production of antibodies. . Passive immunity is acquired by the fetus from the mother before birth.
	Research the work of scientists who contributed to disease prevention.	Students could research the work of scientists who contributed to disease prevention. Examples are: . Pasteur . Jenner . Koch . Reed . Salk . Lister

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
3.0 <u>Promoting Positive Lifestyle Practices</u> Students should be able to:		
3.1 Assess personal health habits or practices.	Record for a period of time personal health practices and rank each as health-promotive, disease-preventive or other.	
	Prepare a checklist of positive health behavior and rate personal performance for a period of time.	Brainstorm a class list of positive personal and environmental health practices. Prepare a checklist and have each student apply the list. Devise a rating system.
3.2 Recognize the importance of reducing and/or preventing air pollution.	Discuss individual responsibilities regarding the prevention of air pollution.	A mini-debate could be carried out to discuss pros and cons of: . rights of smoker and non-smoker . use of aerosol and chemical sprays on crops, insects (fogging programs) . use of wood-burning stoves; fireplaces and creosote; burning trash . use of insulation and urea-formaldehyde At the end of the debate, tabulate individual responsibilities. In relation to rights of a smoker vs. non-smoker, the student could request an adult not to smoke in his/her presence, or the student could seek a place where there is no smoking.

OBJECTIVES	SUGGESTED STUDENT ACTIVITIES	TEACHER NOTES
	Explain the community's responsibility for maintaining pollution-free air.	Contact local authorities for information on air pollution.
	Give examples of persons and roles they play in preventing air pollution.	Contact provincial Department of Environment for resources.
3.3 Propose goals to improve personal and environmental health.	State ways to promote clean air.	Brainstorm for a list of practices that prevent or reduce air pollution. Some examples to suggest are: . Avoid smoking areas. . Use well-ventilated rooms when using aerosols. . Use liquids in preference to aerosols. . Don't burn leaves; use compost heaps or containers. . Don't run car in closed garage or have car "idle" for lengthy periods.
	Select a behavior that needs improvement and outline steps of improvement.	Using the checklist developed in objective 3.1, encourage students to select a behavior that they would like to improve.
3.4 Propose a plan of action to promote personal and/or environmental health.	Describe a plan to improve a personal or community health.	Suggest that each student use the decision-making process to develop the plan of action. Steps include: . State the (health) problem. . List alternatives to solve the problem. . Consider the pros and cons of each alterntive. . Select a plan. List goal statements and try out the plan for a period of time. . Evaluate the plan.